

C. Remarks

Claims 46 to 69 remain pending in the subject case, with Claim 46 being the sole independent claim. Claims 33 to 45 have been cancelled without prejudice or disclaimer and have been rewritten as new Claims 46 to 69 to more clearly define the present invention. Support for this amendment may be found throughout the specification and the cancelled claims. Reconsideration of the present claims is expressly requested.

Initially, Applicants' representative would like to thank the Examiner for the courtesies extended during various telephonic interviews conducted in April and May of 2006.¹ During the interviews, Applicants' representative pointed out to the Examiner that the document referred to by Applicants as "Horner" in the Amendment filed on January 5, 2006 corresponds to the "WO Patent" discussed by the Examiner in various Office Actions, and not to U.S. Patent No. 3,720,606 as the Examiner had believed. In view of these interviews, the Examiner supplemented the Action mailed on April 6, 2006 with the current Action, resetting the time period for response.

Former Claims 33 to 45 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 5,863,882 (Lin) in view of WO 97/43385 (Horner) and U.S. Patent Nos. 3,720,606 (Horney); 4,925,707 (Vinod) and 4,839,212 (Blyth). The grounds of rejection are respectfully traversed.

Prior to addressing the merits of rejection, Applicants would like to review some of the features and advantages of the presently claimed invention. That invention is related to an aqueous odor controlling bacterial composition. This composition includes a

^{1/} The Examiner's Interview Summary included with the current Office Action specifically refers to the interview conducted on May 9, 2006.

bacterium, which is capable of forming a spore and which can become active when exposed to organic material and digest this material. The composition also includes at least one adhering agent in an amount sufficient to adhere the bacterium to a surface upon application of the composition thereto and allow the bacterium to remain adhered to the surface so that it can be exposed to the odor-causing organic material and become active. As a result, such a composition, upon application, can provide a surface with long-lasting and preventative odor controlling properties.

Specifically, when the dormant bacterium is activated, it can digest the odor-causing material, thereby controlling odor that otherwise would be produced. Once the odor has been eliminated, the adhered bacterium returns to its dormant state, and a subsequent application of the odor-causing organic material will once again activate the bacterium, thereby repeating the deodorizing process. The adhering agent keeps the bacterium associated with the surface and available for repeated exposure and activation. Therefore, the presently claimed composition may be used to provide a long-lasting, preventative odor controlling treatment to various surfaces.

Importantly, to further clarify the present invention, the claims now provide for an aqueous composition, which, in one embodiment, contains dormant bacteria and specific adhering agents or, in a separate embodiment, includes the dormant bacterium, at least one adhering agent and, optionally, at least one odor neutralizing or odor trapping agent.

Lin is directed to surface cleaners containing surfactants, both with and without an abrasive, for removing soils, dirt, dried urine, stubborn stains, deposit, and scum

from sinks, toilet bowls and other bathroom fixtures (col. 1, lines 13 to 16). Lin states that surfactants are an “essential component” in its formulation (col. 5, lines 41). Surfactants provide required wetting and emulsification actions (see col. 3, lines 40-54). Horner is directed to a detergent composition comprising a combination of different α -amylases, surfactants and other typical detergent ingredients. The detergent composition in Horner requires a surfactant (see page 11, line 36, to page 24, line 10) at amounts preferably of 1 to 20% (see page 12, line 6). Thus, both Lin and Horner require the presence of a surfactant, which is excluded from composition (B) of Claim 46. Without this essential surfactant, the cleaners in Lin and Horner would be unable to perform their intended cleaning function and be unsatisfactory for their intended purpose. Therefore, there is no motivation to omit the surfactant from the cleaners disclosed in Lin and Horner, since that would destroy the stated utility and operability of the references. See In re Gordon, 221 U.S.P.Q. 1125 (Fed. Cir. 1984); see also, M.P.E.P. § 2143.05(V).

The Examiner has repeatedly alleged that a surfactant, particularly in the context of Horner, reads on the adhering agent as presently claimed. Applicants respectfully disagree.

According to a dictionary definition, a surfactant is “[a]ny compound that reduces surface tension when dissolved in water or water solutions, or that reduces interfacial tension between two liquids, or between a liquid and a solid.”² Adhesion is

^{2/} Hawley’s Condensed Chemical Dictionary, 14th ed., p. 1061 (copy attached).

defined as “[t]he state in which two surfaces are held together by interfacial forces.”³ From these definitions, it is clear that a surfactant acts opposite to an adhesive.

Furthermore, Applicants again stress that the claims explicitly recite that the adhering agent is for adhering a bacterium to a surface being treated, and not for its own adherence to organic deposits or for wetting or emulsifying them. The claims have now been amended to even more clearly differentiate between removing organic deposits which stain a surface and adhering bacterium to a surface to deodorize the surface. The Examiner will appreciate that surfactants in cleaning compositions are designed to remove dirt from surfaces without themselves becoming adhered to the surface. If such surfactants were adhered to the surface, they would not perform their intended function and would further contaminate the site being cleaned.

Furthermore, neither Lin nor Horner disclose or suggest the specific adhering agents recited in Claim 46. In that connection, the Examiner alleges that maleic anhydride polymers recited in Horner on page 32, lines 33-37, are equivalent to the presently claimed hydrolyzed vinyl aromatic maleic anhydride polymer. Also, the Examiner alleges that Horner discloses an acrylic acid co-polymers as presently claimed on page 33, line 36. Applicants respectfully disagree.

Specifically, maleic anhydride copolymers with ethylene, methylvinyl ether, methacrylic acid or acrylic acid, which are listed in Horner, are substantially different from a hydrolyzed vinyl aromatic maleic anhydride polymer or an acrylic acid co-polymer of the

^{3/} Hawley’s Condensed Chemical Dictionary, 14th ed., p. 22 (copy attached).

presently claimed adhering agent. As stated in the specification and the claims, a hydrolyzed vinyl aromatic maleic anhydride polymer is a stain blocker. The ethylene-maleic anhydride copolymer of Horner is not a stain blocker, but is an anti-streak composition used in glass cleaners (see U.S. Patent No. 4,673,523). Methylvinyl ether maleic anhydride co-polymer is a Gantrez® type polymer, which is not known to have stain blocking properties. Lastly, a methacrylic acid maleic anhydride copolymer and an acrylic acid maleic anhydride copolymer are both corrosive, acidic bleaching agents, which will likely destroy the sporulated bacteria. Clearly, Horner does not disclose or suggest any of the adhering agents specifically recited in Claim 46.

Furthermore, Applicants respectfully submit that it would not have been obvious to include stain blockers and fluorochemicals as disclosed in Vinod and Blyth in aqueous compositions with dormant bacteria, much less add these compounds to the cleaners disclosed in Lin and Horner. Specifically, Blyth discloses conventional fluorochemicals and stain blockers, which are bonded to the carpet by a melt polymerization process. These polymers cannot be applied using cleaning processes disclosed in either Lin or Horner to adhere bacteria spores.

In Lin and Horner, the surfactants present prohibit the attachment of cleaners to a surface. Lin and Horner require the cleaning solution to be completely removed after use. One would not add stain blockers and fluorochemicals that require attachment to be effective to the cleaners in Lin and Horner, which require removal to be effective. Therefore, there is clearly no motivation to add the fluorochemicals and stain blockers taught in Blyth to the cleaners in Lin and Horner.

Vinod teaches specific stain blocker compositions, which can be applied to the carpet after installation by allowing the carpet to dry. Since the cleaning processes taught in both Lin and Horner are wet processes, requiring agitation and flushing, there is no motivation to use stain blockers selected specifically to be applied by drying. These fluorochemicals would simply be flushed away without performing their designated function. There is clearly no motivation to add a non-functional ingredient to the cleaners in Lin and Horner.

Furthermore, the intended use of stain-blockers and fluorochemicals in conventional carpet applications, such as those in Blyth and Vinod, is to prevent adhesion of other materials to the carpet, which is directly opposite to the effect the presently claimed invention is capable of producing. There is clearly no motivation to use these compounds as agents for adhering anything to the carpet.

In addition, it is clear that an application of an aqueous composition containing bacteria onto a carpet already treated with a stain-blocker does not result in the stain-blocker being incorporated into this aqueous composition. If such were the case, the treatment in Blyth and Vinod would cease to perform its intended function and would likely be washed away. Thus, clearly, neither Blyth nor Vinod would motivate a skilled artisan to use a stain blocker in an aqueous composition to enhance adherence of bacteria to the surface being treated.

Lastly, the Examiner cited Horney to show that bacterial spores can be combined with other components. Even if assumed, *arguendo*, that Horney contains such a

teaching, it does not provide any motivation or suggestion to combine the sporulated bacteria with the specific ingredients as alleged by the Examiner in the Office Action.

In conclusion, Applicants respectfully submit that the cited documents, whether considered separately or in any combination, do not disclose or suggest the presently claimed elements. Therefore, Applicants respectfully request that the outstanding rejection be withdrawn and the present case be passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

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